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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,420	08/26/2003	Charles C. Anderson	83879D-W	3994

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EXAMINER

ZACHARIA, RAMSEY E

ART UNIT PAPER NUMBER

1773

DATE MAILED: 05/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,420

Applicant(s)

ANDERSON ET AL.

Examiner

Ramsey Zacharia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2005.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 and 41 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-35 and 41 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The indicated allowability of claims 1-35 and 41 is withdrawn in view of the newly discovered reference(s) to Lamotte et al. (US 2004/0048048 A1). Rejections based on the newly cited reference(s) follow.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 9 is rendered indefinite because "ethylene glycol, glycol or glycerol" is not a mixture. Furthermore, because ethylene glycol is a glycol, a mixture of ethylene glycol and glycol is also indefinite because it appears to encompass ethylene glycol mixed with itself which is not a mixture.

Claim Language

5. For the purpose of examination, the conductivity agent of claim 9 is taken to be a mixture of ethylene glycol, diethylene glycol, and glycerol.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-8, 10-35, and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Lamotte et al. (US 2004/0048048 A1).

Lamotte et al. teach a material having a conductive pattern comprising a substrate and a conductive element formed of a conductive polymer and a polyanion and contiguous with a patterned surface of at least two types of surface elements wherein the conductive element in contact with one of the surface elements results in a conductivity that is lower by a factor of 10 (paragraph 0031 and claim 1). The surface elements may be formed from dispersions containing 20 wt% solids, e.g. LATEX02 from the Table in paragraph 0073. The conductive polymer is a polythiophene that reads on the material of Formula I in instant claim 20 (paragraph 0060). The polyanion may be a polyacrylic acid, polymethacrylic acid, polyvinylsulfonic acid, or polystyrenesulfonic acid (paragraph 0066). The patterned surface elements may be applied by conventional printing techniques such as screen printing, off-set printing, and ink jet printing (paragraph 0034). The conductivity of the conductive element may lowered to less than $10^6 \Omega$ by a conductivity enhancement process (paragraph 0040). The conductivity of the conductive element is lower than $10^4 \Omega$ (paragraph 0051), in the embodiment of Example 3, the conductivity is as low as $1.0 \times 10^3 \Omega$ (Table 6), i.e. a factor of 1000 below $1 \times 10^6 \Omega$. The conductivity

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enhancement process comprises contacting the conductive polymer with a liquid, such as N-methyl-pyrrolidone or diethylene glycol, subsequent to the preparation of the conductive polymer layer (paragraph 0026). The conductive polymer layer is preferably applied to the substrate at a coating weight of 100 to 500 mg/m² (paragraph 0105). The substrate may be silicon, glass, paper, or a polymer, such as polyesters, polycarbonate, polystyrene, polyolefin, or cellulose triacetate (paragraph 0056).

Regarding claims 15 and 16, while Lamotte et al. do not teach a concentration of the conductivity enhancing agent in the printing solution of 0.5-5.0 wt%, the concentration of the agent in the printing solution is not a product limitation. The amount of agent present in the finished element is a function of both the concentration in the printing solution and the amount of printing solution applied. Therefore, absent a recitation of the amount of printing solution applied, the concentration of agent in the solution is not physical limitation. As such, the product of Lamotte et al. reads on the product of claims 15 and 16.

The limitations of claims 24-30 are met because these claims are directed to the binder of claim 20 and claim 20 recites that the binder is an optional component.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lamotte et al. (US 2004/0048048 A1) in view of Jonas et al. (EP-A 686,662).

Lamotte et al. teach all the limitations of claim 9, as outlined above, except for the use of a mixture of ethylene glycol, diethylene glycol, and glycerol as the conductivity enhancing agent. However, Lamotte et al. do teach that materials such as di- of polyhydroxy- and/or carboxy groups or amide groups may be used as disclosed in EP-A 686,662 (paragraph 0026).

Jonas et al. teach that ethylene glycol, diethylene glycol, and glycerol are all suitable di- of polyhydroxy- and/or carboxy groups or amide groups materials for use in enhancing the conductivity of polythiophenes.

It has been held that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose. See MPEP 2144.06. Therefore, it would have been obvious to one skilled in the art to use a combination of ethylene glycol, diethylene glycol, and glycerol as the conductivity enhancing agent since Jonas et al. teach that ethylene glycol, diethylene glycol, and glycerol are all suitable materials for use as conductivity enhancing agents.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 5,766,515 is cited because it is an English language equivalent of EP-A 686,662 as shown by Derwent abstract 1995-383921.

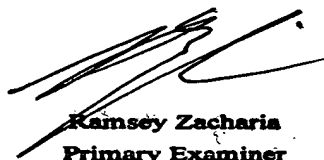
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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518.

The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached at (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ramsey Zacharia
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Tech Center 1700